YouTube, Digital Literacy and the Growth of Knowledge

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Abstract

Social-network enterprises and all manner of user-created content from blogs to Wikipedia, are examples of self-expression within a community that is in principle species-wide. As broadband speed and bandwidth increase to acceptable levels for video, television is renewing itself in the context of these services, which are individual, interactive and international. The first popular internet television venture has been YouTube, whose slogan 'Broadcast yourself' neatly captures the difference between old-style TV and new. YouTube massively scales up both the number of people publishing TV 'content' and the number of videos available to be watched. However, few of the videos are 'stories' as traditionally understood; and the best of those that are, for instance *lonleygirl15*, pretend to be something else in order to conform to the conventions of dialogic social networks. In other words, YouTube does not exhaust the possibilities either for digital storytelling or for self-expression television. Indeed its 'uses' may be rather restricted at least for the moment. However it does offer some pointers to the possibilities that internet-based social networks may offer as they become more ubiquitous, populated, and cheap. YouTube and other social network enterprises, both commercial and community-based, give us something to think with; a way of imagining what a 'bottom-up' model of a storytelling system might look like in a technologically enabled culture.

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YouTube, Digital literacy and the Growth of Knowledge

'Those who tell stories rule society.'
Plato

YIRNing for YouTube

I invented YouTube. Well, not YouTube exactly, but something close – something called YIRN; and not by myself exactly, but with a team. In 2003-5 I led a research project designed to link geographically dispersed young people, to allow them to post their own photos, videos and music, and to comment on the same from various points of view – peer to peer, author to public, or impresario to audience. We wanted to find a way to take the individual creative productivity that is associated with the internet and combine it with the easy accessibility and openness to other people's imagination that is associated with broadcasting; especially, in the context of young people, listening to music on the radio. So we called it the Youth Internet Radio Network, or YIRN.[2]

As researchers, we wanted to understand how young people interact as both consumers and producers of new media content, especially of material made by their peers. We were also interested in the interface between non-market self-expression and commercial creative content (where music has always been exemplary). We wanted to trace the process by means of which individual creative talent may lead to economic enterprise and employment; and in general to understand how culture and creativity may be a seedbed for innovation and enterprise.

In order to find out the answers to our research questions, we thought we would need to set up the appropriate website for young people to 'stick their stuff,' which we would then observe by means of 'ethnographic action research' (Tacchi, Hearn & Ninan 2004), and if all went well we would make a contribution to rural and remote skills-development and regional sustainability. In the event the workshops we held to train young people in techniques like digital storytelling did go well, but we spent two years trying to get the web interface right. Eventually we developed a site called '*Sticky.net*' ('a place to stick your stuff'), but by the time we'd chosen the software, written the code, fixed the functionality and solved technical, design, security and IP issues, the project was over, the kids had moved on, and the site was barely populated. We had invented the idea of YouTube but failed to get it right in practice and in time, possibly because we were more interested in our research questions than in

[2] Chief investigators on YIRN were John Hartley and Greg Hearn; researchers were Jo Tacchi and Tanya Notley. YIRN was funded as an ARC Linkage project with Arts Queensland, Brisbane City Council, Queensland Office of Youth Affairs and Music Queensland as partners (Hartley et al 2003).

monetising consumer creativity. Well, that's what we told each other. Certainly it would have helped to be in the midst of mental California when the zeitgeist, the kids, and the technology happened to overlap. But we simply weren't.

YIRN was productive in the way that failure can be – it spawned quite a few bigger-and-better research projects in urban informatics, digital storytelling, youth creative enterprise, and development communication, even if it didn't succeed in establishing a robust network for Queensland's creative youth. Later, as bandwidth finally expanded sufficiently to allow the internet to shift from text and music to video, YouTube 'proper' came along, with its simple slogan 'Broadcast Yourself,' its easy usability (Flash), and its willingness to scale straight up, in no time flat, from 'me' (the first video being 'Me at the Zoo' by co-founder Jawed Karim) to 'global.' It was clear that neither Queensland youth nor anyone else needed their own special playground; much better to be part of a global commons where you might meet anyone. This is what YouTube quickly provided, and it taught me some lessons straight away: that the open network is more important than anything else; that success comes from being in the right place at the right time; and that simplicity, ease of use and accessibility are more important than functionality, control, or purposive direction.

Just as our funding ran out, YouTube was launched. Unlike us, it took off without displaying much interest in what the broadcast-yourself generation might want to use this newfound capability *for*; how it might be shaped towards imaginative, instrumental or intellectual ends. It simply … evolved (see Burgess & Green 2008).

But however successful YouTube has become, its evolution has left some questions unanswered. What do people need (to have, to know, to do) in order to participate in YouTube? Also, what results from just leaving it alone and letting learning happen by evolutionary random copying or contagion, rather than by 'disciplined' teaching? And what might be expected if 'we' – the users – decided to make a platform like YouTube useful not just for self-expression and communication but for description and argumentation too – for 'objective' as well as 'subjective' knowledge, in Karl Popper's terms (Popper 1972: ch 3)?

When we set up YIRN we assumed that we needed to be active in the field of 'digital literacy.' We thought you had to start by teaching users to make and upload content, and that you couldn't just leave them to their own devices as YouTube does. The downside of the YouTube model of learning by doing and random copying is that people don't necessarily learn what they need in order to express what they want. The upside is that very often they learn from each other, in the process of expanding the archive, and their efforts in turn teach others – just like YouTube celebrities 'Geriatric 1927' (Peter Oakley) or 'Tasha & Dishka' (Lital Mizel and Adi Frimmerman)

of 'Hey Clip' fame. From this, more questions arise, about different models of education:

- Do new media of communication like YouTube and other internet affordances (open source programming, wikis, blogging, social networks, social bookmark folksonomies wordclouds, etc.) require investment (public or private) in teaching whole populations how to use them? Or do they do better by blind experimentation and adaptation?
- Does the investment in the existing infrastructure of formal education have anything to offer? But if schools, colleges and universities are not the right vehicle, why not, and what is?
- Can we imagine a hybrid formal/informal (expert/amateur; public/private) mode of propagation for learning 'digital literacy,' and if so how might YouTube play a part?
- How might YouTube be exploited for scientific, journalistic and imaginative purposes as well as for self-expression, communication, and file-sharing?

Print to digital literacy

One way to address such questions is to compare digital literacy with its predecessor – print literacy. The nineteenth and twentieth centuries were notable for massive and sustained public investment in schools and (later on) universities – the infrastructure needed to deliver near-universal print-literacy at low cost to the user. Right around the world the enormous cost was justified in order to produce modern citizens and a disciplined, skilled workforce for industrialisation. That effort has not been matched in the digital era. The physical ICT infrastructure that has developed since the 1990s for organisational, residential and lately mobile connectivity has not been matched by a concomitant investment in education – public or private – to promote its creative uptake and use by entire populations. Usage across different demographics is patchy to say the least, continuing to reproduce the class and demographic divides inherited from the industrial era. The scaling up of digital literacy is left largely to entertainment providers seeking eyeballs for advertisers, and those who want consumers for their proprietary software applications; in other words, to the market.

If we are to believe what we read about Generation Y and 'digital natives,' they are already in evolutionary mid-step. Today's high-school entrants – those who'll be retiring from work around the year 2060 – seem almost a different species from modernists reared in the image of industry. Teens evidently don't see computers as technology. It's as if they have developed an innate ability for text-messaging, iPodding, gaming, and multitasking on multiple platforms. They can share their life story on Facebook, entertain each other on YouTube, muse philosophically in the

blogosphere, contribute to knowledge on Wikipedia, create cutting-edge art on Flickr, and compile archives on Del.icio.us. Some can do most of these things at once, and then submit their efforts to an online ethic of collective intelligence and iterative improvability that is surely scientific in mode.

But they learn very little of this in school. For the most part the education system has responded to the digital era by prohibiting school-based access to digital environments including YouTube, apart from 'walled gardens' under strict teacher control.[3] From this, kids also learn that formal education's top priority is not to make them digitally literate but to 'protect' them from 'inappropriate' content and online predators. So a good many of them switch off, and devote their energies to time-wasting, daydreaming and making mischief. However, daydreaming is just another word for identity-formation using individual imagination; mischief is no more than experimental engagement with peer-groups and places. Time-wasting (self-expression and social networking) has been the wellspring of the entertainment industry from time immemorial, supplying the characters, actions, plots and lyrics of fantasy fiction from *A Midsummer Night's Dream* to *I Know What You Did Last Summer*. Popular culture has prospered by capturing the attention, mood, time, activities and culture of young people (and others) in their leisure moments, when they're just beyond the institutional grasp of family, school or work. So while schools and universities keep their distance, *purposeless entertainment* has nurtured demand for creative self-expression and communication among the young.

Until recently, creative self-expression has been *provided* rather than *produced*; offered for a price on a take-it-or-leave-it basis by experts and corporations with little input by the consumers themselves. But now, with digital online media, there's almost infinite scope for DIY (do-it-yourself) and DIWO (do-it-with-others) creative content produced by and for consumers and users, without the need for institutional filtering or control bureaucracies. The so-called 'long tail' of self-made content is accessible to anyone near a computer terminal. Everyone is a potential publisher. Instead of needing to rely on the expertise of others, young people navigate themselves through this universe of information. Although schools and universities certainly teach 'ICT skills' and even 'creative practice,' so far they have not proven to be adept at enabling demand-driven and distributed learning networks for imaginative rather than instrumental purposes.

[3] Most Australian states ban school use of YouTube to resist 'cyber-bullying': see www.australianit.news.com.au/story/0,24897,21330109-15306,00.html. For an interesting discussion of the pedagogy of banning internet affordances in university teaching, see: www.theargus.co.uk/news/generalnews/display.var.1961862.0.lecturer_bans_students_from_using_google_and_wikipedia.php

Despite the democratising energies of advocates for literacy, and despite universal schooling, print-literate culture has resulted in a de facto division of labour between those who use print as an autonomous means of communication and those who use it – if at all – for private consumption. While most people can read, in print very few *publish*. Hence active contribution to science, journalism and even fictional storytelling tends to be restricted to expert elites, while most of the population makes do with limited and commercialised 'uses of literacy,' as Richard Hoggart (1957) pointed out half a century ago.

But the internet does not distinguish between literacy and publication. So now it is possible to imagine population-wide literacy in which everyone has the ability to contribute as well as consume. They can certainly use the internet for daydreaming and mischief – self-expression and communication – but it is quite possible to move on to other levels of functionality, and other purposes, including science, journalism and works of the imagination like the novel, those great inventions of print literacy, which must be transformed in the process. Despite misgivings among those with something to lose, these great realist textual systems don't have to be confined to authorised elites any more.

Updating TV's 'bardic function'

Recently both business strategies and public-service thinking have stressed the need for organisations, governments and communities to evolve models of innovation that go beyond the closed expert process of the literate-industrial era. In a knowledge society, what's needed instead is an open innovation network. At the same time, the intuitive and imaginative skills of entrepreneurs in pursuit of 'creative destruction' and renewal can be compared with those of artists. The need for creativity in all aspects of economic and political life has been recognised. Creative talent commands economic as well as symbolic value. But an open innovation network benefits from harnessing the creative energies of the whole population, not just the inputs of isolated expert elites. With technologically enabled social networks using digital media, productivity can now be expected from consumers as well as producers, as users extend the growth of knowledge far beyond what can be achieved by professionals publishing in print. Hence, YouTube (among other online social networking sites), with all its unsystematic exuberance and unambitious content, devoted to no more than mucking around or, as the classic Hey Clip puts it, 'heya all! dancing stupid is fun,'[4] is *simultaneously* the complex system in which digital literacy can find new purposes, new publishers, and new knowledge. And anyone can join in, which ups the productivity of the whole system.

[4] See youtube.com/watch?v=-_CSo1gOd48

Thus far the commercial media and entertainment industries have pursued an industrial or expert-system model of production, where professionals manufacture stories, experiences and identities for the rest of us to consume. This system is 'representative,' both in the sense that 'we' are represented onscreen and in the sense that a tiny band of professionals 'represents' us all. The productivity of this system is measured not by the number of ideas propagated or stories told, but by the number of dollars earned per story. Thus, over the past century, cinema, radio and television have all organised and scaled human storytelling into an industrial system, where millions watch but mere hundreds do the writing. Broadcast media speak to and on behalf of us all in mass anonymous cultures.

This is the bardic function (Fiske & Hartley 2003). Now that we can 'do it ourselves' – and 'do it with others' too – what might become of television's 'bardic function'? YouTube is the first large-scale answer to that question. Its slogan 'Broadcast yourself' neatly captures the difference between old-style TV and new. YouTube massively scales up both the number of people *publishing* TV 'content' and the number of videos available to be watched. However, few of the videos are 'stories' as traditionally understood, not least because of radically reduced timeframes: ninety minutes for cinema; thirty to fifty minutes for TV, and one to two minutes for most YouTube. The best stories, for instance *lonleygirl15*, pretend to be something else in order to conform to the conventions of dialogic social networks.[5]

YouTube allows everyone to perform their own 'bardic function'. Just grab a harp (even an 'air harp'),[6] and sing! With other social network enterprises, both commercial and community-based, it is a practical experiment in what a 'bottom-up' (all-singing, all-dancing) model of a 'bardic' system might look like in a technologically enabled culture. Instead of looking for a *social institution* or an *economic sector* like the original Celtic bardic order or the television industry, both characterised by expertise, restricted access, control, regulation and one-way communication, it is now possible to look for an *enabling social technology*, with near-ubiquitous and near-universal access, where individual agents can navigate large-scale networks for their own purposes, while simultaneously contributing to the growth of knowledge and the archive of the possible. The internet has rapidly evolved into a new 'enabling social technology' *for knowledge*. And just as 'new'

[5] See youtube.com/user/lonelygirl15; see also the entry in the Wikipedia, which claims over 70 million combined views for LG15 on various platforms (September 2007), including YouTube, Revver, metacafe, LiveVideo, Veoh, Bebo, and MySpace.

[6] See youtube.com/watch?v=l6z60GWzbkA

media typically supplement rather than supplant their predecessors, it relies on both experts and everyone. It is the means by which 'bottom-up' (DIY consumer-based) and 'top-down' (industrial expert-based) knowledge-generation connects and interacts (Potts et al 2008).

YouTube is semiospherical

Human language is the primary model for this dynamic process of individuated productivity and action within an open complex system. Language, in general and in each distinct language, is only ever produced by individuals, but it expresses and connects a community as large in principle as all those who speak it, including the ones not yet alive who can read it later on, at least until it changes beyond recognition. A language is a network, but one of a special kind: what Albert-László Barabási (2002) has identified as a 'scale-free network':

> The brain is a network of nerve cells connected by axons, and cells themselves are networks of molecules connected by biochemical reactions. Societies, too, are networks of people linked by friendships, familial relationships and professional ties. On a larger scale, food webs and ecosystems can be represented as networks of species. And networks pervade technology: the Internet, power grids and transportation systems are but a few examples. Even the language we are using to convey these thoughts to you is a network, made up of words connected by syntactic relationships. (Barabási & Bonabeau 2003: 50)

Barabási and Bonabeau (2003: 50) explain that scale-free networks are characterised by many 'nodes' with a few links to others in the network, and a few 'hubs' with many links to other nodes. Complex networks appear to be organised by 'fundamental laws' that apply across to the physical, social and communicative worlds:

Such discoveries have dramatically changed what we thought we knew about the complex interconnected world around us. Unexplained by previous network theories, hubs offer convincing proof that various complex systems have a strict architecture, ruled by fundamental laws that appear to apply equally to cells, computers, languages and society. Such insights can begin to explain how myriad individual points of origin and action are nevertheless linked into a coherent system, in which order emerges spontaneously and without the need for overall centralised control (Shirky 2008). Like language, the human network is itself networked, branched, and differentiated. It can be understood both (anthropologically, structurally) as whole, and (romantically, culturally) in its particulars.

The characteristics of complex adaptive systems apply to markets as well as to languages. Scale-free networks are characterised by *growth* (addition of new nodes), *preferential attachment* (new nodes seek links with already-linked hubs), and

hierarchical clustering, where 'small, tightly interlinked clusters of nodes are connected into larger, less cohesive groups' (Barabási & Bonabeau 2003: 58).[7] It took the emergence of computational power to be able to model this kind of system mathematically, but that is now under way, in the economic sphere as well as in the 'enabling' sciences – particularly in evolutionary and complexity economics (Beinhocker 2006). Here the concept of 'preferential attachment' explains the principle of social network markets, whose special characteristic is that agents' choices (agents being both consumers and producers, both individuals and enterprises) are *determined by the choices of others* in the network (Ormerod 2001; Potts et al 2008). Being able to see systems as whole and in terms of individual agency also has the effect, by the way, of reuniting the long-divergent 'two paradigms' (Hall 1980) of structuralism (system; whole) and culturalism (agency; particular) that have driven cultural studies since Raymond Williams.

The models that the network and scientists are coming up with look like language-models: a system in which nodes (agents/speakers) and relationships (links/communication) interconnect in an open complex network, coordinated by relatively few major hubs or 'institutions of language' including media organisations. This is Yuri Lotman's (1990) 'universe of the mind' – the 'semiosphere' – another name for which is culture. When modelled mathematically, culture emerges not in *structured opposition* to economics (as cultural critics hold) but as part of the same *coordinated network*. YouTube is one such network.

A message from the ancients

Much of human storytelling is 'said and done.' It is over with as soon as uttered, because most stories – most utterances – are part of what the linguist Roman Jakobson (1958) called *phatic* communication, checking the connection between speakers not creating new knowledge. So most stories are ephemera not archive. This function may predominate, along with emotive (self-expression) and conative (imperative) language use, among small tightly-connected clusters such as families and friends, in which each agent or node has few links and the message is uttered to maintain those links (thus phatic communication is sometimes called 'grooming talk'). This is why the internet has a lot of small-talk and chit-chat, and much less Shakespeare and science.

But some stories are not mere phatic exchange. Their function is not to connect the speakers but to describe the world or creatively to expand the system's capabilities. In

[7] Some cultural scientists dispute Barabási's concept of preferential attachment, preferring a model of random copying. See Bentley & Shennan (2005). YouTube may be a 'live experiment' to test these different explanations for how social networks evolve.

Jakobson's terms, their function is not phatic but *referential* (information about the context), *poetic* (self-referential), or *metalinguistic* (about the code or system) (Jakobson 1958; see also Fiske & Hartley 2003: 62-3). Such stories may cumulatively become 'hubbed,' with myriad links radiating across the network, playing a coordinating role. They might be myths, urban and otherwise, folklore or 'tales of yore'; or they might be retold in highly elaborated form, as song, drama or narrative. The point is that they retain myriad points of origin (being retold afresh by all and sundry), but also recognisable shape and coherence.

Writing about modern art in the context of the 'theatricality of ordinary behaviour,' Göran Sonesson (2002) argues that with the abolition of the modernist distinction between fine and popular arts in postmodernity, it is possible to see that fine arts borrow something new from popular arts, which themselves borrow it from ordinary life, namely the *phatic* function *as art*.

> Contemporary arts … repeat everyday, trivial situations, which have become standardised and repeatable, not because of the presence of some popular memory, but because of being projected over and over again by television and other mass-media: they exist thanks to the *bardic* function of television, as Fiske & Hartley call it, that is, in Jakobson's terms, thanks to the phatic function. (Sonesson 2002: 24)

The argument here is that all three spheres of ordinary life, popular media and fine art are fully interconnected in a larger cultural network, and that art itself has reached the stage of development where it can recognise and gain inspiration from the most basic or banal functions of language. Although there's a lot of negative evaluation in public commentary on these matters, with banality, media, art, and postmodernism all coming in for a good tongue-lashing, some important insights have been 'discovered' in this process: namely, that the *performance of the self* is just as coded, 'theatrical' and 'artistic' in ordinary life as it is in fine art; that subjectivity links power and aesthetics in performance; and that there is an open channel of mutual influence among these different hierarchical levels of the overall cultural network (manifested for instance in 'gossip' media and celebrity culture, where the attention accorded to celebrities like Paris and Britney is focused on their personal lives, which for others constitute the condition of ordinariness (Hilton 2004).

As a result, it is possible to re-evaluate phatic communication itself. This is necessary in the context of digital media like YouTube, since so much of what is published in social network sites is phatic. To the modernist eye, trained in literate expertise, which seeks to minimise phatic utterances, it looks a proper mess. However, the problem here may be in the eye of the critical-literate beholder, not in the uses of the internet, for a medium in which phatic communication can be restored to full

performative theatricality may also be restoring an ancient, multi-voiced mode of narration to cultural visibility. For example Anil Dash, VP of Six Apart Ltd and early adopter of blogging, has argued that:

> TV and newspapers and radio and books, especially in the West in the last 100 years, have dwindled down from a stream of thousands of concurrent parallel conversations to the serial streaming of the Big Six or Seven media companies. The train-of-thought, rambling, narrative tradition of human interaction which dates back to the earliest storytelling traditions of our species has been abandoned for bullet points. (Dash 1999)

The implication of Dash's argument is that the web opens up 'public discourse' in a way that enhances ancient competences, which are distributed across the species, not restricted to the 'Big Six or Seven.' He argues that asides, interjections by third parties, annotation, hyperlinks and so on, all of which characterise YouTube as well as the blogosphere, add to the credibility, richness and critical value of a web-published document, which emerges not as a linear performance of the authorial self but as a concurrent performance of connectedness, collective intelligence, and oral modes of storytelling. If this is so, then it is important to understand better the 'train-of-thought, rambling, narrative tradition of human interaction,' because instead of dismissing it as phatic inconsequentiality, bad art or non-science it may be time to reappraise it as an intellectual resource. If storytelling – not to mention rambling – is an ancient resource, it may be wise to abandon invidious distinctions between different media, and to see them as part of the growth of knowledge, going back to the 'earliest storytelling traditions of our species.'

The cultural ubiquity of a restricted number of story-types, coming down from time immemorial, has led some to conclude that there is very little variety among plots. Joseph Campbell was a proponent of this view, proposing that a 'monomyth' runs as follows:

> A hero ventures forth from the world of common day into a region of supernatural wonder: fabulous forces are there encountered and a decisive victory is won: the hero comes back from this mysterious adventure with the power to bestow boons on his fellow man. (Campbell 1949: 30)

The 'structural' analysis of myth and folklore also preoccupied the structuralists and formalists – Propp, Griemas, Todorov, Lotman, and Bettelheim (Hawkes 1977).

More recently, Christopher Booker (2004) has identified seven basic plots that are structural transformations of ancient tales:

1. Overcoming the Monster,
2. Rags to Riches,
3. The Quest,
4. Voyage and Return,
5. Rebirth,
6. Comedy,
7. Tragedy.

The most basic plot, 'overcoming the monster,' which characterises the oldest surviving story in the world, the *Epic of Gilgamesh*, is also present in the classical stories of Perseus and Theseus, the Anglo-Saxon poem *Beowulf*, Culhwch and Olwen from the *Mabinogion*, 'fairytales' like Little Red Riding Hood, Dracula, and in contemporary times H.G. Wells' *War of the Worlds*, or movies like *Seven Samurai, Dr No, Star Wars: A New Hope*, *Jaws* – and the 2007 3D-movie/anime hybrid *Beowulf*.

This kind story is used to structure truth as well as fiction, news and politics as well as movies, and in exactly the same way. Such narratives are part of what Robin Anderson (2006) has called 'militainment.' A good example would be the news coverage of George W. Bush's 'Mission accomplished' speech on board the *USS Abraham Lincoln* (May 1 2003), declaring both decisive victory in Iraq over 'a great evil' – an unseen monster worthy of *Beowulf*'s Grendel – and spelling out the boons bestowed by the heroes. The final paragraph of the President's speech explicitly ties the events of the day to 'a message that is ancient':

> All of you — all in this generation of our military — have taken up the highest calling of history. You are defending your country, and protecting the innocent from harm. And wherever you go, you carry a message of hope — a message that is ancient, and ever new. In the words of the prophet Isaiah: 'To the captives, "Come out!" and to those in darkness, "Be free!"'[8]

Of course this story came back to haunt the Bush Administration, but not because of its status as myth; only because the monster wasn't dead – it wasn't a *good* story. Naturally the event was thoroughly clipped, spoofed and re-versioned on YouTube.[9]

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[8] For the full speech on YouTube see: youtube.com/watch?v=faMTYPYfDSE&feature=related; and: youtube.com/watch?v=0z9RIjGWpJk&feature=related (the section quoted here is on the second clip). See also www.whitehouse.gov/news/releases/2003/05/20030501-15.html

[9] Searching "mission accomplished" on YouTube yielded nearly 900 videos (April 2008). See for instance: youtube.com/watch?v=-GJUGUYsm68 (ABC News story previewing the speech); and youtube.com/watch?v=l1fjmr-Kmxk&feature=related (re-versioned footage from USS Lincoln).

'Those who tell stories rule society' – narrative science

Booker's own method for discerning pattern in repetition was to read a lot of stories, and to explain the patterns in terms of Jungian archetypes, which he uses to link stories to the process of individual 'self-realisation.' He also suggested that the science he was trying to found was long overdue:

> One day, I believe, it will eventually be seen that for a long time one of the most remarkable failures of our scientific approach to understanding the world was not to perceive that our urge to imagine stories is something just as much governed by laws which lay it open to scientific investigation as the structures of the atom or the genome. (Booker, 2004: 700)

Reviewers were impressed with the laws; less so with the enabling theory. Denis Dutton (2005), for instance:[10]

> The basic situations of fiction are a product of fundamental, hard-wired interests human beings have in love, death, adventure, family, justice, and adversity. These values counted as much in the Pleistocene as today, which is why they are so intensively studied by evolutionary psychologists.

Both Booker and Dutton are looking for ways of describing the coordinating mechanisms which allow individual agents not only to join the web of sense-making and hook up with other agents, but also to reduce the potential infinity of experience, semiosis and structures to order, and in the process to achieve 'self-actualisation' (Abraham Maslow) if not 'self-realisation' (Carl Jung).[11] In other words, stories themselves are *organising institutions* of language and of self, simultaneously. *They* 'speak' the bards, the media, the myriad individual storytellers, rather than the other way around.

A network characterised by growth and change is dynamic; a 'scale-free' network:

> As new nodes appear, they tend to connect to the more connected sites, and these popular locations thus acquire more links over time than their less connected neighbors. And this 'rich get richer' process will generally favor the early nodes, which are more likely to eventually become hubs. (Baráabsi and Bonabeau 2003: 55)

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[10] See also Michiko Kakutani (2005) 'The Plot Thins, or Are No Stories New?' *New York Times* April 15. accessible at: www.nytimes.com/2005/04/15/books/15book.html

[11] See en.wikipedia.org/wiki/Maslow's_hierarchy_of_needs (Maslow); and en.wikipedia.org/wiki/Analytical_psychology (Jung).

In the web of storytelling, Booker's seven basic plots are *hubs*, to which new events (plots) and agents (heroes) alike are 'preferentially attracted.' Thus new stories tend to end up like all the others:

1. **Anticipation Stage** – *The call* to adventure, and the promise of what is to come.
2. **Dream Stage –** The heroine or hero experiences some *initial success* - everything seems to be going well, sometimes with a dreamlike sense of invincibility (what we might call the 'Mission accomplished' stage).
3. **Frustration Stage –** First *confrontation* with the real enemy. Things begin to go wrong.
4. **Nightmare Stage –** At the point of maximum dramatic tension, disaster has erupted and it seems all hope is lost (*final ordeal*).
5. **Resolution –** The hero or heroine is eventually *victorious*, and may also be united or reunited with their 'other half' (a romantic partner).[12]

What is the benefit of reducing experience to such patterns? It may be that stories themselves are 'hard wired' to *enact* the sequence required for a new node to find productive links in a scale-free network. Stories are a *social technology* for passing on a model for how to navigate complex adaptive networks to succeeding generations. Stories are *about* how it feels and what it takes for a new 'node' to connect to a network, to navigate its topography, and to develop sufficient links to become a hub. There's a name for failure to connect too. Booker calls it 'tragedy.' And the name for characters who value *self* over *system*? Booker calls them 'evil.' Everything else is a version of Romance; they're all family dramas.

Narrative reasoning

Here storytelling does what science cannot. Eric Beinhocker (2006: 126-7) reckons that stories are an evolutionary mechanism for *inductive reasoning*.

> As Plato said, 'Those who tell stories rule society.' … Stories are vital to us because the primary way we process information is through *induction*. Induction is essentially reasoning by pattern recognition. … We like stories because they feed our induction thinking machine, they give us material to find patterns in – stories are a way in which we learn.

Bearing in mind that this insight is offered in a book about complexity economics, it is as well to note that *learning* in this context is part of the answer to the question of

[12] Adapted from a good account of Booker's ideas by Chris Bateman at his blog *Only a Game*: onlyagame.typepad.com/only_a_game/2005/10/the_seven_basic.html

how wealth is created, both long-term (evolutionary) and short-term (business success). Beinhocker is not celebrating the romance of the hero but seeking a scientific explanation for economic growth and an exact model for entrepreneurial action. In this context, learning has wealth-creating potential:

> Humans particularly excel at two aspects of inductive pattern recognition. The first is relating new experiences to old patterns, through metaphor and analogy-making. … Second, we are not just good pattern recognizers, but also very good pattern-completers. Our minds are experts at filling in the gaps of missing information. (Beinhocker 2006: 127)

If Eric Beinhocker is right, and his is a very different model of 'economic rationalism' from that of traditional economics, then the stakes could hardly be higher. YouTube is a means for propagating this vehicle of inductive reasoning and learning to the outermost limit of the social; looking for ways to connect marginal, isolated, excluded or just shy 'nodes' so that they may thrive. He emphasises that we need to understand the 'micro-behaviors of individuals' in order to understand how the system as a whole works:

> This model portrays humans as inductively rational pattern-recognisers who are able to make decisions in ambiguous and fast-changing environments and to learn over time. Real people are also neither purely self-regarding, nor purely altruistic. Rather, their behaviour is attuned to eliciting cooperation in social networks, rewarding cooperation and punishing free riders (Beinhocker 2006: 138-9).

This is what YouTube teaches too. Beinhocker goes on to say that 'networks are an essential ingredient in any complex adaptive system. Without interactions between agents, there can be no complexity' (141). In short, without such individual interactions, the entire system fails. So it behoves any progressive theory of communication to find a way to put the power of inductive reasoning – storytelling – where it belongs, in the minds and mouths of all agents, so that they may interact on a competitive footing, finding ways to 'access, understand and create communications in a variety of contexts,' as one national media regulator defines 'media literacy.'[13] Thence they may learn to navigate the 'hierarchies of networks within networks'

[13] The British media regulator, Ofcom, has a statutory duty to promote media literacy among the UK population. Its definition of media literacy was arrived at after extensive consultation: 'Media literacy is the ability to access, understand and create communications in a variety of contexts.' See: www.ofcom.org.uk/consult/condocs/strategymedialit/ml_statement/; and for the full range of Ofcom's media literacy reports see: www.ofcom.org.uk/advice/media_literacy/medlitpub/medlitpubrss/.

(Beinhocker, 141) that characterise both markets in the global economy and meanings in the global sense-making system, including language, the internet – and YouTube.

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